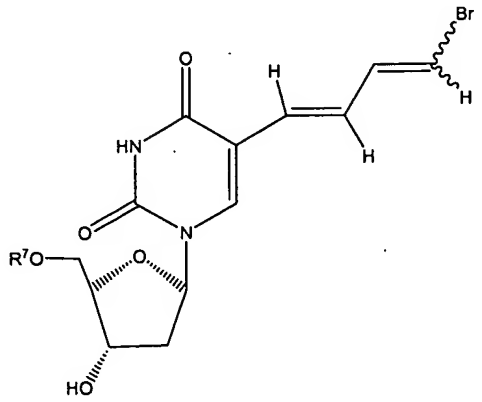
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

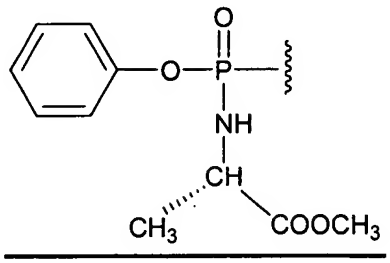
Listing of Claims:

Claims 1 to 52. (Canceled).

Claim 53. (Currently Amended) A compound having the structure:



wherein R^7 is a monophosphate or has the structure:



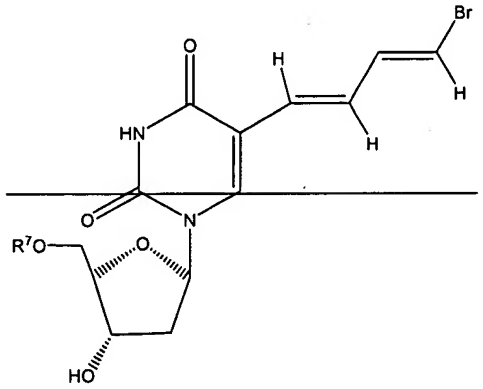
~~phosphate group, or a phosphoramidate group; wherein the phosphoramidate group consists of a phosphorous atom bound to 1) an oxygen atom, 2) to a hydroxy, phenoxy, or a substituted phenoxy group, and 3) to an amino acid, wherein the amino~~

~~acid is bound to the phosphorous atom through its amino group and optionally bound to the 3' carbon of the sugar through its carboxy group~~;

or a ~~and~~ pharmaceutically acceptable salt ~~salts~~ thereof.

Claim 54. (Currently Amended) The compound of claim 53, wherein the compound is ~~comprised of a mixture of the terminal halogenated double bond~~ an E ~~and~~ or Z ~~isomers~~ isomer.

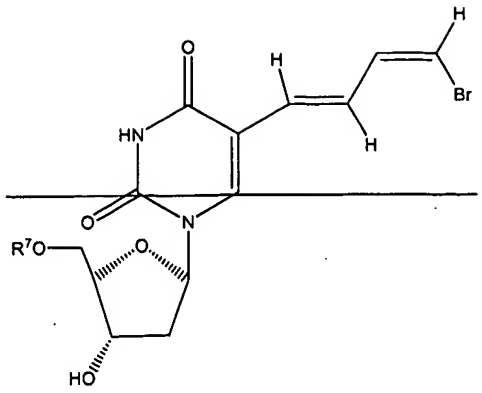
Claim 55. (Currently Amended) The compound of claim 54, wherein the compound is the E isomer ~~having the structure:~~



~~wherein R^7 is a phosphate group, or a phosphoramidate group; wherein the phosphoramidate group consists of a phosphorous atom bound to 1) an oxygen atom, 2) to a hydroxy, phenoxy, or a substituted phenoxy group, and 3) to an amino acid, wherein the amino acid is bound to the phosphorous atom through its amino group and optionally bound to the 3' carbon of the sugar through its carboxy group;~~

~~and pharmaceutically acceptable salts thereof~~.

Claim 56. (Currently Amended) The compound of claim 54, wherein the compound is the Z isomer ~~having the structure:~~



~~wherein R^7 is a phosphate group, or a phosphoramidate group; wherein the phosphoramidate group consists of a phosphorous atom bound to 1) an oxygen atom, 2) to a hydroxy, phenoxy, or a substituted phenoxy group, and 3) to an amino acid, wherein the amino acid is bound to the phosphorous atom through its amino group and optionally bound to the 3' carbon of the sugar through its carboxy group;~~

~~and pharmaceutically acceptable salts thereof~~.

Claim 57. (Currently Amended) A composition comprising a compound of any of claims 53 to 56 and a pharmaceutically acceptable carrier.

Claim 58. (Canceled)

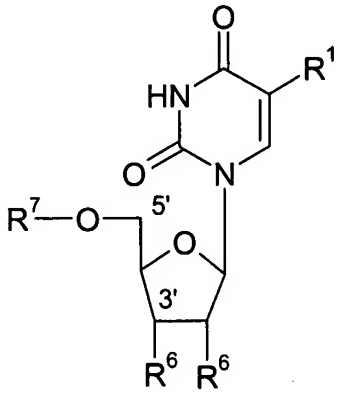
Claim 59. (Previously Presented) A method for inhibiting the proliferation of a pathological cell *in vitro*, wherein thymidylate synthase is overexpressed in the cell, comprising contacting the cell with an effective amount of a compound according to any of claims 53 to 56.

Claim 60. (Previously Presented) A method according to claim 59, wherein the pathological cell is a colon cancer cell, a breast cancer cell, a gastric cancer cell, a head and neck cancer cell, a liver cancer cell, or a pancreatic cancer cell.

Claim 61. (Previously Presented) A method according to claim 59, wherein the pathological cell is a colon cancer cell.

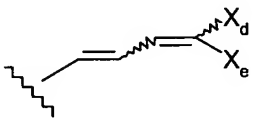
Claim 62. (Canceled).

Claim 63. (Currently Amended) A compound or a pharmaceutically acceptable salt of the compound, wherein the compound has the structure:



wherein:

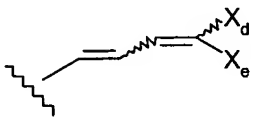
(i) R^1 is a group:



wherein X_d is H; and, X_e is Cl or Br;

or:

(ii) R^1 is a group:

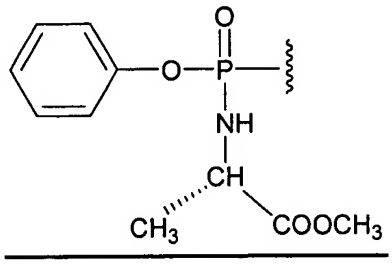


wherein X_d and X_e are independently the same or different and are selected from Cl, Br, and ~~I, and CN~~;

and wherein each R^6 is independently the same or different from the other and is selected from the group consisting of -H, -OH, $-OC(=O)CH_3$, or F;

R^7 is -H, ~~a phosphate group or a phosphoramidate group; wherein the phosphoramidate group consists of a phosphorous atom bound to 1) an oxygen atom, 2) to a hydroxy, phenoxy, or a substituted phenoxy group, and 3) to an amino acid, wherein the amino acid is bound to the phosphorous atom through its amino group and optionally bound to the 3' carbon of the sugar through its carboxy group~~

a monophosphate or the structure

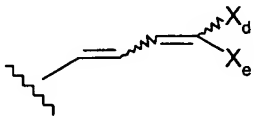


; and

wherein the compound may be in any enantiomeric, diasteriomeric, or stereoisomeric form, including D-form, L-form, α-anomeric form, and β-anomeric form.

Claim 64. (Previously Presented) A compound according to claim 63, wherein:

R^1 is a group:

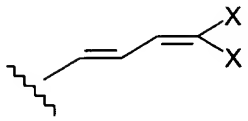


wherein X_d is H; and, X_e is Cl or Br.

Claims 65 to 67. (Canceled).

Claim 68. (Currently Amended) A compound according to claim 63, wherein:

R^1 is a group:



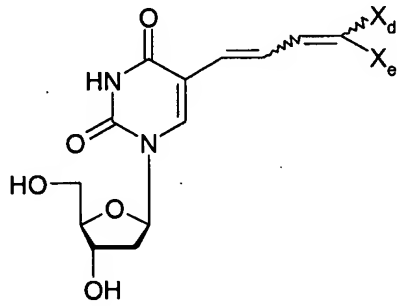
wherein each X is selected from Cl, Br, and I~~, and CN~~.

Claim 69. (Previously Presented) A compound according to claim 68, wherein X is Cl or Br.

Claim 70. (Previously Presented) A compound according to claim 68, wherein X is Br.

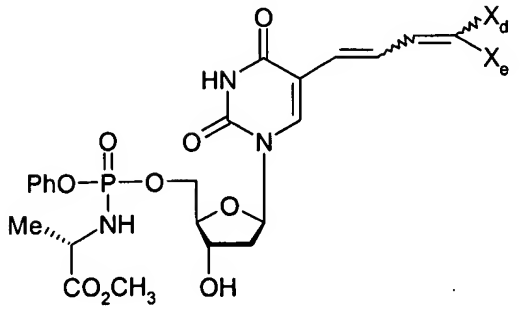
Claims 71 – 78 (Canceled).

Claim 79. (Previously Presented) A compound according to claim 63, having the structure:



wherein X_d is H; and, X_e is Cl or Br.

Claim 80. (Previously Presented) A compound according to claim 63, having the structure:

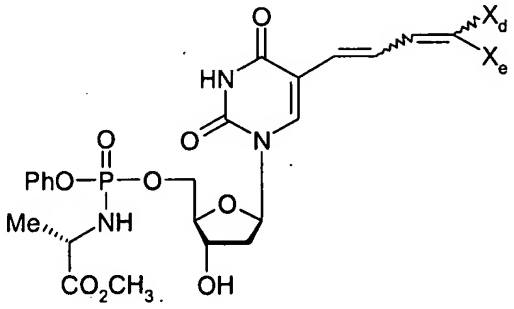


wherein X_d is H; and, X_e is Cl or Br.

Claim 81. (Canceled).

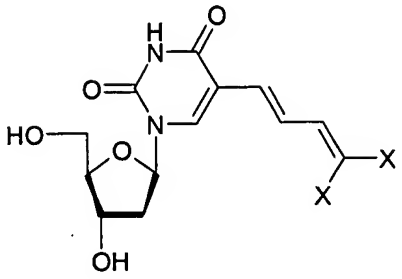
Claim 82. (Canceled).

Claim 83. (Currently Amended) A compound according to claim 63, having the structure:



wherein X_d and X_e are independently the same or different and are selected from Cl, Br, and I~~, and CN~~.

Claim 84. (Currently Amended) A compound according to claim 63, having the structure:



wherein each X is selected from Cl, Br, and I~~, and CN~~.

Claim 85. (Previously Presented) A composition comprising a compound according to claim 63 and a carrier.

Claim 86. (Previously Presented) A pharmaceutical composition comprising a compound according to claim 63, and a pharmaceutically acceptable carrier.

Claim 87. (Previously Presented) A method for screening for a therapeutic agent, comprising:

(a) contacting a sample containing a target cell with a compound according to claim 63;

(b) contacting a separate sample of the target cell with a potential therapeutic agent; and

(c) comparing the samples for inhibition of cellular proliferation or cell killing.

Claim 88. (Currently Amended) A method according to claim ~~86~~ 87, wherein the target cell is characterized as resistant to a chemotherapeutic drug.

Claim 89. (Currently amended) A method according to claim ~~86~~ 87, wherein the target cell is characterized as expressing a target enzyme that is amplified as a result of selection *in vivo* by chemotherapy.

Claim 90. (Currently Amended) A method according to claim ~~86~~ 87, wherein the target enzyme is an endogenous intracellular enzyme that is overexpressed in the target cell.

Claim 91. (Previously Presented) A method for inhibiting the proliferation of a pathological cell, wherein thymidylate synthase is overexpressed in the cell, comprising contacting the cell with an effective amount of the compound according to claim 63.

Claim 92. (Currently amended) A method according to claim ~~90~~ 91, wherein the pathological cell is a colon cancer cell, a breast cancer cell, a gastric cancer cell, a head and neck cancer cell, a liver cancer cell, or a pancreatic cancer cell.

Claim 93. (Currently Amended) A method according to claim ~~90~~ 91, wherein the pathological cell is a colon cancer cell.